ST. LOUIS DISTRICT CULTURAL RESOURCE MANAGEMENT REPORT NUMBER 3

A Cultural Resource Survey of Six Proposed Dry Detention Basins in the Cahokia Canal Area of Madison County, Illinois

Contract No. DACW43-82-M-2045

by
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This report describes the results of a cultural resource survey of six parcels of land proposed for development as dry detention basins in the Cahokia Canal area of Madison County, Illinois. The study was conducted by Southern Illinois University at Edwardsville under the auspices of the United States Army Corps of Engineers, St. Louis District. The study area consisted of ca. 2,005 acres situated in the eastern American Bottoms and adjacent uplands. The field investigation was conducted in Spring 1982 and consisted -

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of pedestrian survey of approximately 20% of the study area. As a result of the survey, two new sites were identified and six previously reported sites were revisited, four of which were redefined. Identified prehistoric components ranged from Early Archaic through Mississippian. A portion of one parcel lies within the boundary of the Cahokia Mounds National Historic Site; however, this area, along with three other previously reported sites, could not be resurveyed. Two previously reported site areas were surveyed, but the sites were not relocated. The significance of these findings is discussed and statements of impact and recommendations are provided.

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ABSTRACT

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ACKNOWLEDGEMENTS

The 1982 field reconnaissance of portions of the six proposed detention areas in the Cahokia Canal area was supported by the United States Army Corps of Engineers, St. Louis District, under Contract No. DACW43-82-M-2045. The assistance provided by Mr. Terry Norris, District Archaeologist, during the course of the project is gratefully acknowledged.

In addition to the authors, project personnel included Mr. Tony Bucks and Mr. Steve Rekas. The authors would like to express their appreciation to the numerous landowners who allowed us to survey on their land. Finally, Ms. Diane Whitley is thanked for her excellent typing of this manuscript.

INTRODUCTION

The following report describes the methods and results of a cultural resource survey and literature review of six proposed dry detention basins in Madison County, Illinois, conducted by Southern Illinois University at Edwardsville, under Contract No. DACW43-82-M-2045 with the United States Army Corps of Engineers, St. Louis District (Figure 1). The project area consists of approximately 2,005 acres situated in the eastern portion of the American Bottoms and adjacent uplands between Interstate 270 on the north and Interstate 55/70 on the south. Project goals included identification and delineation of cultural resources present within a 20% stratified sample of the study area (Table 1). The 20% sample was an ideal to be approached depending on landowner permission, ground surface visibility, and likelihood of encountering cultural resources. Specific results of sampling strategies employed are provided for each parcel. Specific contractual requirements can be found in the Scope of Work and subsequent modification included in this report as Appendix 1.

This report has been prepared in accordance with the provisions of the Scope of Work. Following this introductory section, the environmental setting of the study area will be presented. In sequential order, additional sections will discuss project methodology, survey results, statements of site significance, and potential impacts and recommendations.

Table 1. Parcel Coverage Data

Parcel Number	Parcel Name	Approximate Total Acreage	Acreage Covered	Proportional Coverage
1	Upper Cahokia Canal No. 1	325	0	0%
2	Upper Cahokia Canal No. 2	220	123	56%
3	Elm Slough	465	114	24%
4	Burdick Creek Reservoir	140	10	7%
5	McDonough Lake	285	70	25%
6	Brushy Lake	680	141	21%
Total		2005	458	23%

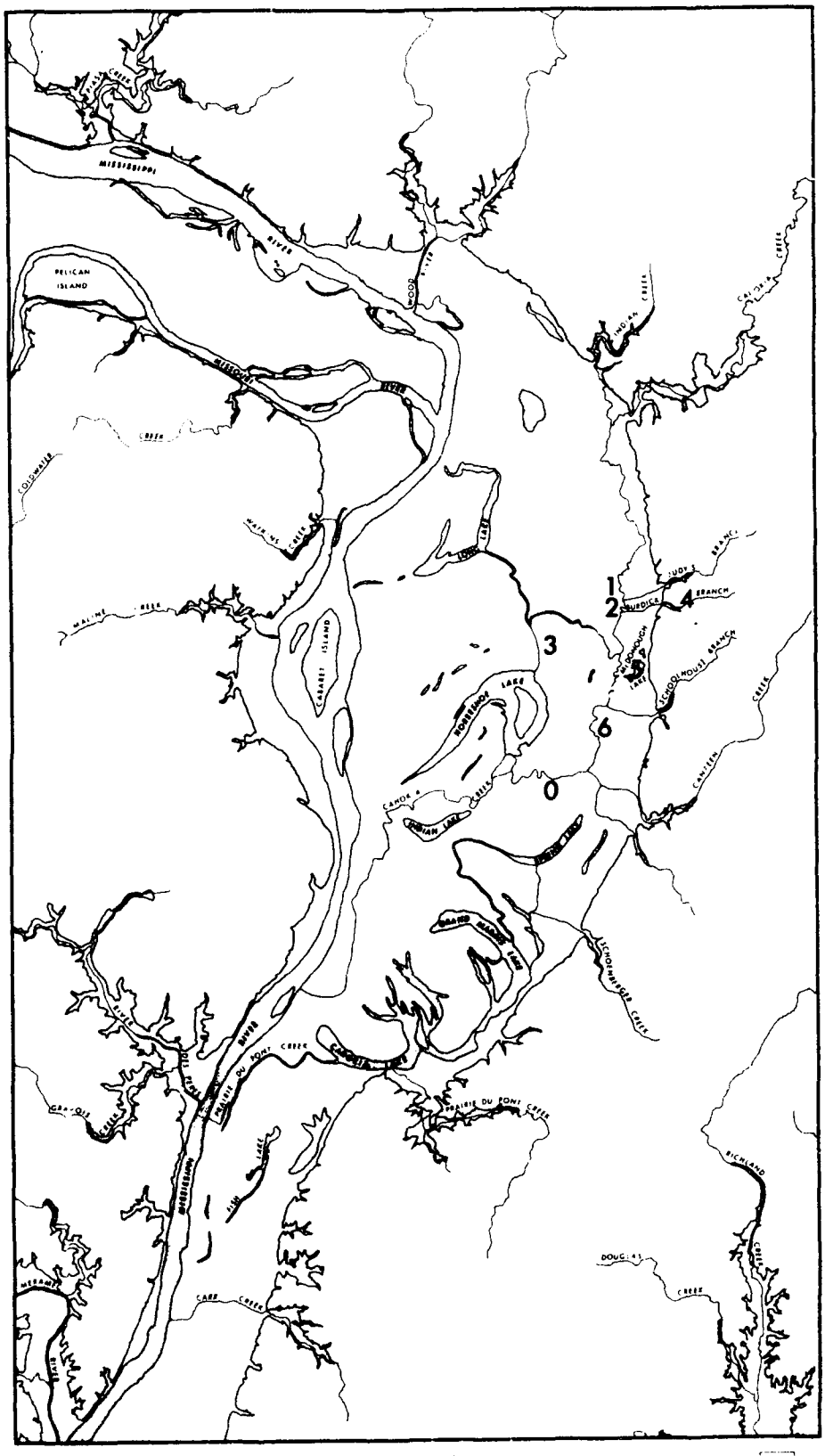
ENVIRONMENTAL SETTING

The entire Cahokia Canal project study area is situated in the American Bottom and adjacent upland in Madison County, Illinois. One parcel includes a portion of the incised drainage of Burdick Branch immediately to the east of the bluff line and will be further discussed below. The remaining parcels lie within the Mississippi River floodplain in former channel scars characterized by low, flat, clayey areas bordered by coarser textured natural levees, point bars, and ridges. Numerous lakes, ponds, marshes, and swamps have resulted from channel cutoff and subsequent filling. The Edelhardt Meander Scar and the McDonough Lake Meander Scar are transected by three of the parcels, and chronologies have been proposed for these as a result of archaeological investigations (Munson 1974; Linder et al. 1978). Elevations within these parcels range from 405 to 421 feet MSL.

Figure 1. Parcel Location

0	Cahokia site
1	Parcel No. 1
2	Parcel No. 2
3	Parcel No. 3
4	Parcel No. 4
5	Parcel No. 5
6	Parcel No. 6

AMERICAN BOTTOM



SOURCES: USGS 7½ QUADS AND USGS ST LOUIS SHEET NOVEMBER 1961 EDITION

BLUFFS ARE DELIMITED AT 450 ABOVE SEA LEVEL

Drainage and water sources for the floodplain parcels are provided by Cahokia Creek and its tributaries, McDonough Lake, and Long Lake. The presence of alluvial and colluvial deposition indicates the distinct possibility of buried sites in the project area. This is especially true in the northern sections (Upper Cahokia Canal #1 and #2 and Elm Slough) which have been built up with a clay sediment from Long Lake and Cahokia Creek overflows (Yarbrough 1974:25).

Soils within the floodplain parcels are primarily of the Darwin silty clay and Beaucoup silty loam associations. The dark gray, poorly drained soils of the Darwin association were formed in clayey alluvium on floodplains and were associated with a native vegetation of grasses and deciduous trees. The Beaucoup series consists of nearly level, poorly drained soils that formed in silty, slack-water sediment under grasses and a hardwood forest. Among several other soil types occupying small portions of the survey area, the well to rather poorly drained silt loams of the Raddle, Wakeland, Dupo, and Tice series are of interest since sites were found to be predominantly associated with them. These soils were formed in predominantly silty alluvial sediment under grasses and forest. At the time of survey, the floodplain parcels were either planted in corn, wheat, or horseradish, or covered by swamp, water, or woods.

The remaining parcel, Burdick Creek Reservoir, is situated in the dissected upland immediately to the east of the floodplain. The parcel includes a portion of Burdick Branch and the steep, densely wooded slopes of the incised drainageway. Elevations within the parcel range from 450 to 500 feet MSL. Wakeland and Sylvan-Bold silt loams constitute the soil types. Soils of the Sylvan-Bold association are moderately permeable and are formed in loess on moderate to steep slopes under predominantly deciduous trees. Erosion is a severe hazard on these steep slopes. The Wakeland soils occur in the bottomland along the stream in silty alluvial deposits and are associated with a deciduous forest vegetation community.

METHODOLOGY

Background and Literature Search

The American Bottom region has been the focus of numerous archaeological investigations since the 19th century. A review of the relevant literature indicated that those significant to the Cahokia Canal project include the 1950 Central Mississippi Valley Archaeological Survey (Griffin and Spaulding 1951), the 1961-63 Munson and Harn survey of the American Bottoms and Wood River Terrace (Munson and Harn 1971), Brandt's 1971-72 survey conducted in conjunction with the University of Wisconsin-Milwaukee Cahokia Archaeology Project (Brandt 1972), Freimuth and Dickinson's 1974 reconnaissance of the FAI-270 alignment, and more recently, the 1976-77 survey of the FAP-413 alignment (Linder et al. 1978). In addition, portions of the FAP-413 alignment have been tested by Illinois State University, but a report of this work has not yet been made available. Benchley (1975) has provided an overview of archaeological resources in the local region, while Fowler (1979) has completed a history of investigations at the Cahokia site (Ms-2).

A search of the Illinois Archaeological Survey site files revealed that while no sites were known to exist in three of the parcels, eleven previously reported sites were located within the other portions of the project area. Ms-46, in the McDonough Lake Parcel, was reported by Griffin in 1957. Also in this parcel are Ms-128, reported by Munson in 1963, and Ms-590, 598, and 608, reported as a result of the FAP-413 survey. Ms-603-605 and 609 were located by FAP-413 personnel in the Upper Cahokia Canal No. 2 Parcel. In the Brushy Lake Parcel, Ms-517 was reported by Brandt in 1971. Finally, the southern one third of the Brushy Lake Parcel is contained within the boundary of the Cahokia Mounds National Historic Site.

Field Methods

Following the literature review and records search, access permission was obtained by personal visits to landowners and tenants, and the specific areas to be surveyed were determined. Selection of these areas was based on the existence of previously reported sites, favorable conditions of ground surface visibility and splash erosion, landowner or tenant permission, acreage requirements, and the potential an area was felt to have for containing archaeological sites.

Once specific areas to be surveyed were determined, the pedestrian survey was conducted. In parcels occupying the American Bottoms, two people walked at 15 meter intervals until a site was identified, at which point the interval was reduced to five meters for site boundary delineation and for the selective collection of temporally and functionally diagnostic materials. In the upland parcel (Burdick Creek Reservoir) the method of survey was limited to walking the incised channels, because their cut-banks and gravel bars provided the greatest area of visibility as compared to the dense vegetation that covered the floodplain, terraces, and colluvial slopes.

Each area surveyed was described on a Field Walkover Report, indicating ground cover, surface preparation, surface wash, visibility range, and location on a sketch map (Appendix 2). Areas covered were also recorded on the appropriate 7.5' U.S.G.S. Topographic Quadrangle. Each area of material concentration was given a field number consisting of the abbreviation for the contracting institution, followed by the parcel number and an individual, sequentially derived identification (e.g. SIUE 2-1). Each of these field sites was described in the field on a Site Survey Form, indicating, among other things, collection interval, estimated area of scatter, materials observed, site topographic position, and modern disturbance to the site area (Appendix 2). The limits of each site were sketched on the Site Survey Form and defined on the appropriate U.S.G.S. Topographic Quadrangle. A photographic log was kept of surveying procedures and site areas.

Laboratory Methods

All recovered materials were returned to the SIUE Archaeological Laboratory for processing where they were washed, labeled, and inventoried in preparation for analysis. Ceramic materials were described according to temper, surface treatment, decoration, and vessel position represented. When possible, ceramics were then identified in terms of cultural and temporal affiliation.

After morphological description, lithics were, when appropriate, identified functionally and typologically (see Appendix 3 for a complete listing of materials by site). Specific procedures followed for processing materials can be found in Denny and Woods (1981:83-133). In addition, after comparison with previously reported site distributions and terrain considerations, decisions were made as to the possible combination of field sites and assignment of previously reported or new IAS site designations.

SURVEY RESULTS

As indicated above, the Cahokia Canal survey area consists of six parcels of land, numbered consecutively from north to south. A total of approximately 458 acres (23%) of the roughly 2,000 acres encompassed by the project area were surveyed in May 1982. Of the eleven previously reported sites, six were successfully relocated, resulting in the redefinition of four site areas. The locations of the two other previously reported sites were surveyed but not relocated. The remaining three sites could not be surveyed because of poor conditions of ground visibility or inadequate splash erosion. In addition, two sites were identified. The following section briefly describes the location, general characteristics, and survey results for each parcel. Specific site data are provided in Appendix 3.

Parcel No. 1. Upper Cahokia Canal No. 1

This parcel encompasses approximately 325 acres in the low gradient floodplain of Cahokia Creek bounded by the Cahokia Canal on the east, the Illinois Terminal ROW on the west, and the Chicago and Northwestern ROW on the south (Figure 2). Elevations within the parcel range from 419 to 420 feet MSL. Permission to survey this parcel was denied by the landowner. Approximately 34 acres in the center of this portion of the project area were surveyed by FAP-413 personnel (Linter et al. 1978). No sites were reported within the boundaries of the parcel as a result of that survey, but several were reported immediately to the west.

Parcel No. 2. Upper Cahokia Canal No. 2

Parcel No. 2 contains approximately 220 acres in the low gradient floodplain of Cahokia Creek bounded on the north by the Chicago and Northwestern ROW and extending approximately 1200 meters to the south, and bounded on the east by the Cahokia Canal and extending approximately 750 meters to the west (Figure 2). Elevations within the parcel range form 420 to 421 feet MSL. The western half of the parcel was surveyed by the FAP-413 crew, who reported four sites (Linder et al. 1978). SIUE personnel surveyed a total of 127 acres, including those areas containing previously reported sites and most of the areas that had not been surveyed before. Under conditions of 100% visibility and good splash erosion, the SIUE crew identified a moderately dense scatter of chert flakes and one biface fragment which encompassed the site areas designated Ms-604 and Ms-609 as reported by the FAP-413 crew. Consequently, both site areas were included under the newly defined Ms-604 and the IAS site designation Ms-609 was reassigned to the Steve Rekas site identified in Parcel No. 5. No evidence of the previously reported Ms-605 was found,

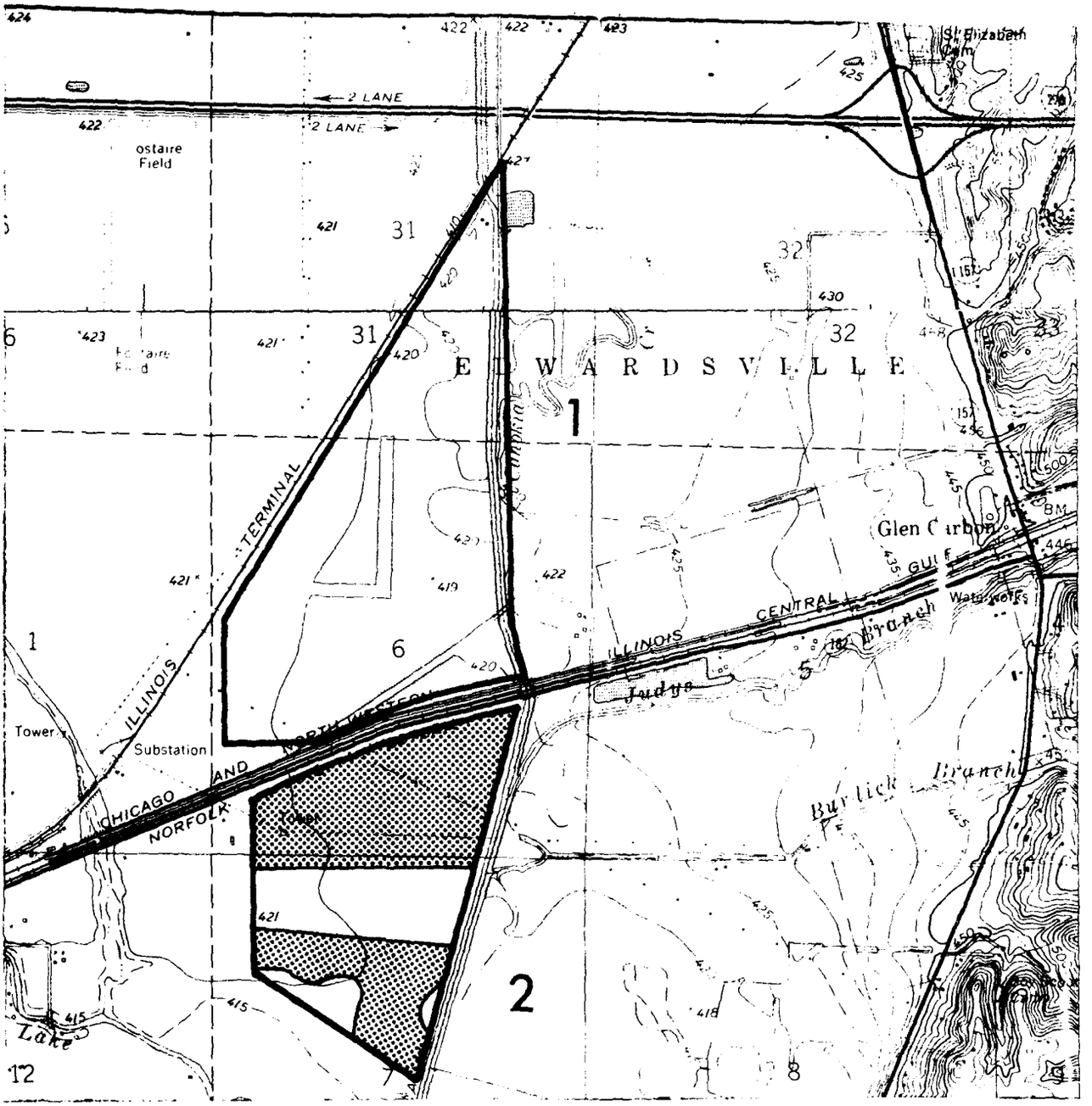


Figure 2

Pedestrian Survey Coverage: Parcel Nos. 1&2

Source: USGS 7.5' Topographic Quadrangles

and the area containing Ms-603 was not surveyed because it had received no splash erosion. No diagnostic materials have as yet been recovered from sites reported in the Upper Canal No. 2 Parcel.

Parcel No. 3. Elm Slough

The Elm Slough Parcel encompasses approximately 465 acres within the Edelhardt Meander Scar south of Stallings, Illinois (Figure 3). Elevations within the parcel range from 405 to 410 feet MSL. No evidence was found to indicate that any organized survey had been conducted within the confines of the parcel. The SIUE crew surveyed a total of 114 acres. In the northern area, visibility ranged from 80% to 100% and splash erosion was poor. However, the southern and eastern section has received excellent splash erosion, with a visibility range of 80% to 100%. The survey was confined to these areas, since the remainder of the parcel was either swampy, wooded, or planted in wheat. No sites were identified within the Elm Slough Parcel.

Parcel No. 4. Burdick Creek Reservoir

This portion of the project area begins approximately 500 meters to the east of Illinois Route 157 and includes portions of Burdick Branch drainage up to 500 feet MSL (Figure 4). The parcel contains approximately 140 acres. Only about 10 acres (7%) were surveyable due to dense vegetation throughout and buildings in the northern area. Cut banks and gravel bars were walked. The parcel does not appear to have been surveyed before and contained no previously reported site. The SIUE crew did recover one projectile point from the creekbed and the location of this point has been designated Ms-1058. This Waubesa projectile point was most probably not *in situ*, but rather indicates the presence of an Early or Middle Woodland site upstream.

Parcel No. 5. McDonough Lake

The McDonough Lake Parcel consists of 285 acres in the McDonough Lake Meander Scar, including the lake and extending from Illinois Route 157 westward to within 500 feet of the Cahokia Canal (Figure 3). Elevations within the parcel range from 415 to 420 feet MSL. Most of the area had been surveyed by FAP-413 personnel, who reported four sites lying totally or partially within this parcel (Linder *et al.* 1978).

The SIUE crew surveyed 70 acres in the parcel. Since high densities of cultural materials had been previously reported, all cultivated fields were walked, with the exception of small areas on the southwestern edge, which were planted in wheat. The remainder of the parcel was either under water or in dense woods or swampy undergrowth. Surface visibility was good in all areas surveyed, but splash erosion varied from poor in the northern and extreme southern areas to good in the area adjacent to the southwestern edge of McDonough Lake. In the latter area, however, the good conditions had attracted local collectors, which may account for the paucity of diagnostic cultural materials recovered.

One new site was identified and given the reassigned Ms-609 IAS designation. This site was identified on the basis of a light scatter of lithic and

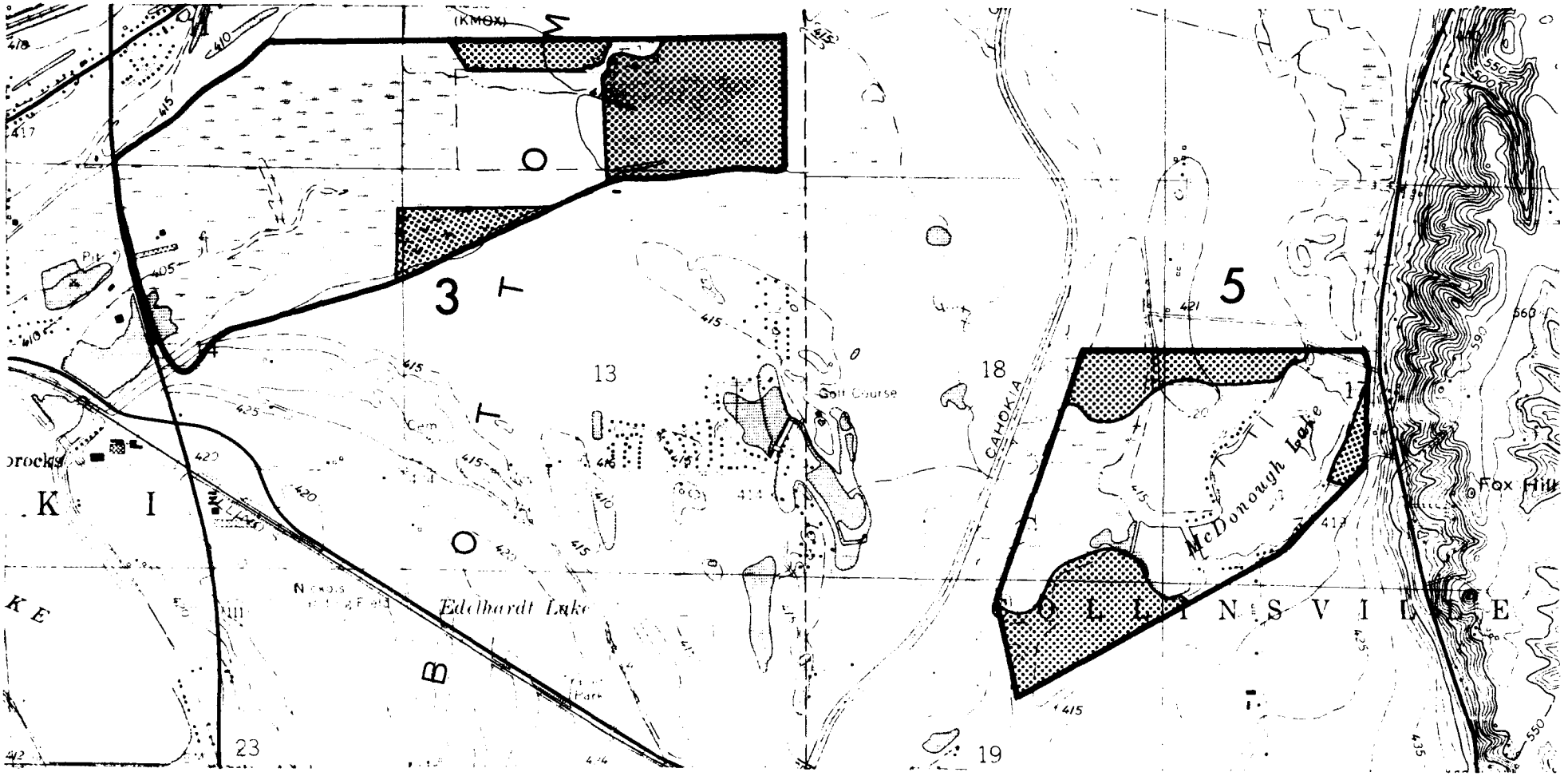


Figure 3

Pedestrian Survey Coverage: Parcel Nos. 3&5

Figure 4

Pedestrian Survey Coverage: Parcel No.4

ceramic materials in a ca. 50 x 50 meter area in the northeastern portion of the McDonough Lake Parcel. On the basis of these materials, a Late Bluff component can be projected for this site. Ms-590 and the northern portion of Ms-598 were relocated as defined by the FAP-413 crew, who identified Early Woodland, Middle Woodland, and Late Woodland/Mississippian components for Ms-590 and Early and Late Archaic, Early and Late Woodland, and Mississippian components for Ms-598. No evidence was found of Ms-128, the southern edge of which (as mapped by FAP-413 crew) extends into the parcel. The soil in this area was very dry, with poor splash erosion. Furthermore, only the westernmost edge of Ms-46 could be walked, since the majority of the site area was in tall wheat and the remainder had received no splash erosion.

Parcel No. 6. Brushy Lake

The Brushy Lake Parcel encompasses 689 acres within the Edelhardt Meander Scar, bordered on the west by the Cahokia Canal, on the north by the Illinois Terminal ROW, on the east by Black Lane, and on the south by U. S. Route 55-70 (Figure 5). Elevations within the parcel range from 415 to 420 feet MSL. Brandt reported the Eckmann Island site (Ms-345), centrally located along the eastern edge of the parcel. Later, the northeastern corner of the parcel was surveyed in 1978 during preliminary reconnaissance for FAI-270 by Freimuth and Dickinson, who reported the Sponemann site (Ms-517). This site was revisited by FAP-413 crews (Linder et al. 1978).

A total of approximately 141 acres of cultivated fields, with a visibility range of 80% to 100% and generally poor splash erosion, were surveyed by the SIUE crew. The southern section of the parcel, which includes portions of the Cahokia site (Ms-2), could not be surveyed, since landowner permission was denied for the only area suitable for pedestrian survey. The 40-acre field surveyed in the center of the parcel was reported to have been reclaimed by filling in (Victor Eckmann, personal communication, 11 May 1982). No new sites were identified as a result of the SIUE survey. However, the limits of both Ms-345 and Ms-517 were found to be more extensive than reflected in the original mapping. Materials collected from Ms-517 confirm the Archaic and Late Woodland/Mississippian components assigned to the site by FAP-413 personnel, who also reported a Middle Woodland occupation. Since no diagnostic material was recovered from Ms-345, the cultural affiliations suggested for the site by Brandt (Archaic, Late Woodland, and Mississippian) could not be confirmed.

SIGNIFICANCE

Basically, the criterion that would be utilized to assess the potential National Register elegibility of the cultural resources identified by the present investigation would be their research value, i.e. their likelihood of yielding information important in prehistory (see 36 CFR Part 60.4). Based on this standard, one site (Ms-3) is already a National Register property and seven sites (Ms-46, 128, 345, 517, 590, 598, 609) certainly appear to be significant resources.

The significance of the Cahokia site (Ms-2) cannot be overestimated. As the largest prehistoric settlement in North America to the north of Mexico, this community functioned as the highest order central place for the complex

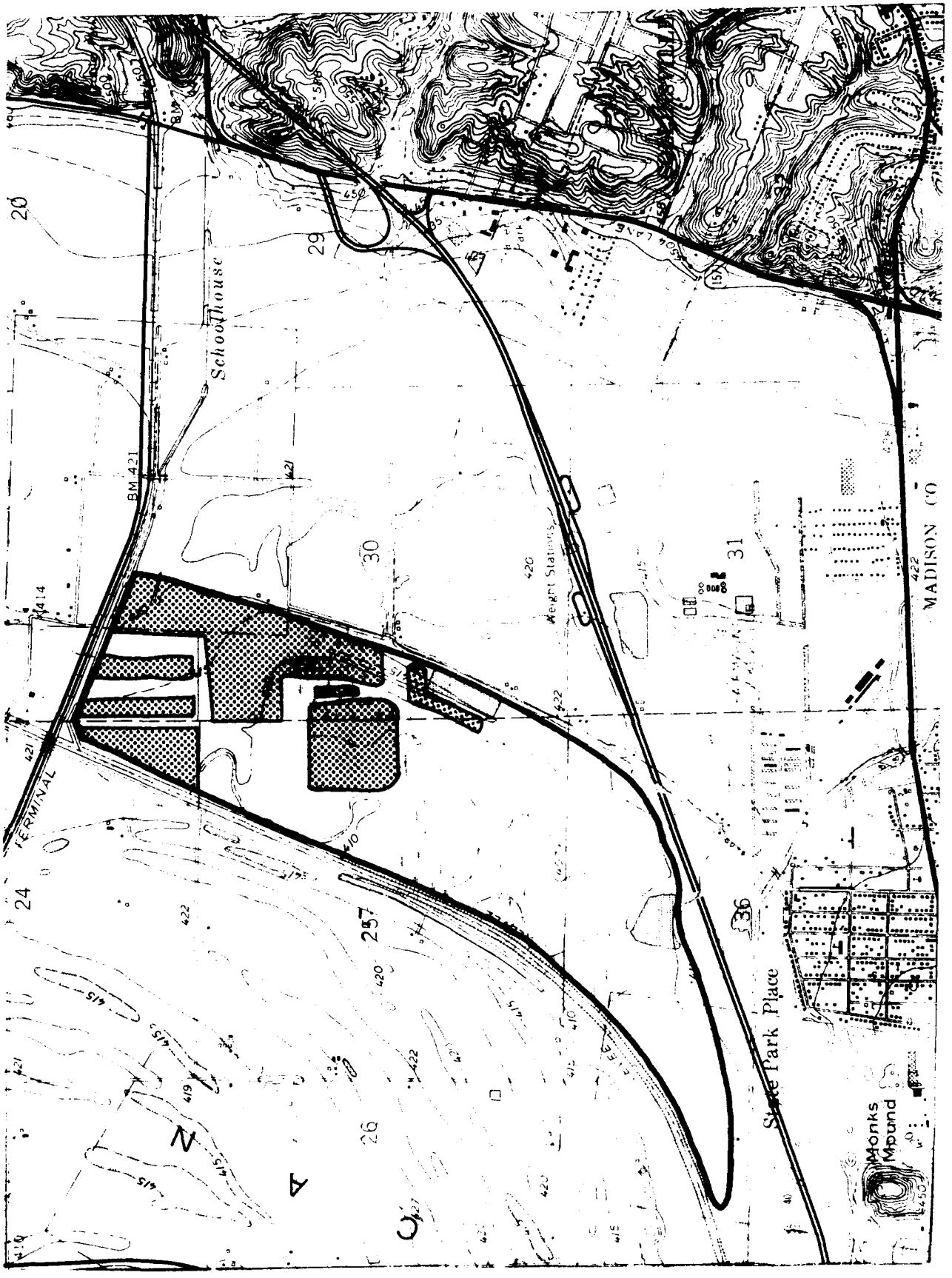


Figure 5

Pedestrian Survey Coverage: Parcel No. 6

Mississippian culture and was the focus of economic, political, and religious activities for at least three centuries. As indicated above, both the boundaries of the Cahokia Mounds National Historic Site and the extent of mound distribution associated with the site extend into the Brushy Lake Parcel (Fowler 1978:7). Indeed, the 1882 McAdams map, 1894 Thomas map, and 1908 Peterson-Mcadams map of the site all depict mounds within the southwest portion of this parcel (Fowler 1978:66, 75, 80).

All of the seven sites which are judged to have a high potential for National Register eligibility contain multiple components (Table 2). Of the prehistoric culture periods of the local region only the Paleo-Indian and Middle Archaic appear to be absent. Little can be said of the nature of the Archic occupations on Ms-46, 128, 517, 598, and 609 other than they probably represent a series of small, specialized camps occupied on a seasonal basis, perhaps similar to those identified at the Missouri Pacific #2 site (S-46) (Fortier 1981) and the Cahokia site (Nassaney et al. 1983). The Early Woodland components on Ms-590 and 598 appear to be of a limited duration occupancy like that of the Archaic. During Middle Woodland a settlement hierarchy is represented in the study area with a major village at Ms-598, base camps or villages at Ms-46, 128, and 590, and a more restricted occupation at Ms-517. Late Woodland villages appear to be present at Ms-46 and 517, with a series of smaller settlement units at Ms-128, 345, 590, and 598. Due to its setting on an aggrading colluvial fan the Late Woodland occupation at Ms-609 cannot be classified at this time. The Mississippian settlement typology appears to be similar to that of the Late Woodland with villages present on Ms-46, 517, and 598 and a series of smaller settlements of the farmstead or hamlet type at Ms-128, 345, and 590.

Table 2.

Identified Components for Sites Deemed Significant

Site Number	Identified Components
Ms-46	Archaic, Middle Woodland, Late Woodland: Early Bluff, Mississippian
Ms-128	Early Archaic, Late Archaic, Middle Woodland, Late Woodland: Early Bluff and Late Bluff, Mississippian
Ms-345	Archaic, Late Woodland, Mississippian
Ms-517	Early Archaic, Late Archaic, Middle Woodland, Late Woodland: Early Bluff and Late Bluff, Mississippian
Ms-590	Early Woodland, Middle Woodland, Late Woodland: Late Bluff, Mississippian
Ms-598	Early Archaic, Late Archaic, Early Woodland, Middle Woodland, Late Woodland: Late Bluff, Mississippian
Ms-609	Archaic, Late Woodland: Late Bluff

Although the seven sites discussed above have not as yet been demonstrated to contain features, it is clear that they do contain significant data and on the basis of previous investigations in the region have a high probability of exhibiting features and/or buried living surfaces. Due primarily to the lack of temporally diagnostic materials the research potential and National Register eligibility of Ms-603-605 and 603 cannot be determined at this time. However, even disturbed sites which do not contain any intact subsurface cultural features have been found to be the sources of significant research data (Talmage et al. 1977). The isolated projectile point find at Ms-1058 has a very low research potential because it is certainly a redeposited item whose original point of deposition cannot be ascertained.

It should be noted that although no sites were identified within those areas surveyed in the lower portion of former meander scar areas, preservation of wood and possibly other organic materials, which are rarely recovered in uncarbonized form in local archaeological contexts, would have been promoted in the anaerobic, reducing medium of the waterlogged sediments deposited in the cut-off meander loops within the study area. Such items as canoes (Brose and Greber 1982), fishing and fowling implements, and miscellaneous habitation debris discarded into these depressions from adjacent settlements would be of great research value if adequately preserved. In addition, the channel remnants would have provided excellent conditions for pollen accumulation and retention. Coring of these sediments coupled with stratigraphic pollen and radiocarbon analysis could be utilized as aids for prehistoric environmental reconstruction.

RECOMMENDATIONS AND STATEMENT OF IMPACT

The object of the investigation described in this report was to identify archaeological sites within portions of the study area through selective pedestrian survey. Factors considered for the selection of areas to survey included ground cover, topographic feature (e.g. rises in floodplain), and location of previously reported sites. As this was a specific, non-random, non-stratified survey, the results shoud be viewed as a guide to the types of archaeological sites present in the proposed detention basins and should only be utilized for general planning purposes.

In regard to potential impacts on the archaeological resources within the Cahokia Creek area it would be useful at this point to review the criteria of effect and adverse effect as provided in 36 CFR Part 800.3. An effect occurs when an undertaking changes the integrity of location, setting, materials, or association of a property that contributes to its significance in accordance with National Register criteria. Destruction or alteration of all or part of a property is considered to be an adverse effect only if the property has been judged to be of national historic significance. Potential actions that would lead to adverse effects within the project area parcels could include, but are not restricted to, the following. Direct impacts could occur during facility development through borrowing, levee and embankment construction, channel widening, and roadway and other existing facility removal and relocation. After emplacement of the detention basins, alterations associated with hydrologic effects will take place. Containment will cause basin siltation which ultimately will require dredging or other forms of sediment removal. This coupled with spoil dumping could directly impact included cultural resources. Innundation would also cause adverse effects through erosional disturbance (Woods 1980; Woods and Denny

1980; Lenihan et al. 1981) and chemical and physical modification of archaeological remains (Lenihan et al. 1981).

At present the specific plans for development of the detention facilities are unknown. Therefore, the extent, nature, and distribution of potential impacts on the cultural resources present are unclear. Indeed, the identity, location, and National Register significance of the cultural resources of the project area have not yet been fully ascertained. In the absence of detailed plans for proposed facility development, it must be assumed that entire parcels may be impacted by detention basin construction, innundation, and other induced alterations and that adverse effects will occur. Under this assumption a number of recommendations are herein proposed. First, a total survey of all areas to be impacted should be performed. Techniques to be utilized would include pedestrian survey where conditions of surface visibility permit and shovel testing in other areas. In addition, coring and deep excavation units in the form of backhoe trenches should be emplaced in areas where there is a high probability of identifying buried cultural materials, features, or horizons. Following the survey, Phase II testing should be conducted on any sites which could be affected by proposed facility development in order to determine their subsurface integrity and potential significance. Following testing adetermination of National Register eligibility should be sought for all significant sites. In those cases where an adverse effect is contemplated for an eligible property two options would be available. In the first instance. alternatives could be considered which would result in avoidance of impact. These could consist of no undertaking or alternative sites, undertakings, or designs. The second option would take the form of mitigation through data recovery before the undertaking proceeded. Specific data recovery procedures to be utilized would be dependent on the detailed research design developed for each site.

Finally, it should be stressed that although a number of significant cultural resources have been identified through surface survey, the potential for buried sites within the parcels is felt to be quite high. Recent work in floodplain settings of the American Bottom at the Cahokia (S-34) and the Lawrence Primas site (Ms-895) have demonstrated the existence of totally buried Late Archaic horizons (Benchley and DePudyt 1982; Nassaney et al. 1983) and a buried Mississippian community, respectively. Colluvial and alluvial deposition in the interior upland parcel and portions of those parcels adjacent to the bluffs would indicate that such buried sites could exist in these areas, too. Fortier et al. (1983) have recently reported on the deeply buried Early Woodland and buried Middle Woodland living surfaces at the Mund site (S-435) in a colluvial fan setting and Prentice and Mehrer (1981) have described the excavation of an unplowed Mississippian hamlet on a slope in the Schoenberger Creek valley.

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APPENDIX 1

A Cultural Resource Survey of Six Proposed Detention Areas in the Cahokia Canal Area, Madison County, Illinois

SCOPE OF WORK

1. Statement of Work. The work to be accomplished by the Contractor consists of furnishing all labor, supplies, material, plant, equipment, if required, and all personnel necessary to perform a cultural resource survey of six proposed detention areas in the Cahokia Canal Area, Madison County, Illinois, and furnish a written report thereon, all as set forth in this Appendix 1.

2. Location and Description of the Study Area. The project area is situated in the vicinity of the Cahokia Canal near Collinsville, Madison County, Illinois. It includes five separate proposed detention basins in the American Bottoms and one in the adjacent uplands. Survey limits are outlined on Map 1 (Encl 1). The total area to be physically surveyed consists of approximately 423 acres of selected locations. The following approximate acreage amounts should be surveyed within each area:

	Name	Acreage	Enclosure
1.	Upper Cahokia Canal	65	Map 1
2.	Upper Cahokia Canal #2	44	Map 1
3.	Elm Slough	93	Map 1
4.	McDonough Lake	57	Map 1
5.	Brushy Lake	136	Map 1
6.	Burdick Creek Reservoir	28	Map 1

3. Study Plan

3.1 General. The Contractor is responsible for the formulation, justification, and conduct of the study to include the design and execution of all survey methods and procedures as well as the presentation of the study results, unless otherwise set forth in this Appendix 1, all to be included in a written report as set forth herein. The survey emphasis will be on identifying the maximum number of archaeological sites possible within each project area. Although the total acreage of the six proposed detention areas discussed in paragraph 2 is approximately 2,122 acres, the Contractor is to restrict his investigation to a 20 percent stratified sample of each area, which totals 423 acres, more or less. The 20 percent sample of each area will be designed in a manner to include areas of highest archaeological site potential in order to accomplish this goal. Whenever possible the areas to be selected for survey in the American Bottoms include point bars, colluvial slopes, natural levees and other elevated ridges. Upland areas to be surveyed will include cleared colluvial slopes, terraces or other elevated areas.

3.2 Method of Operation. The Contractor will complete the attached Method of Operation form (Encl 2) that will be submitted as an appendix to the request for quotation and conduct a cultural resource survey in the study area as defined in paragraph 2 above. The method of operation shall identify the techniques to be used to address the various requirements of the Scope of Work. Detailed vitae attachements outlining the work histories and academic backgrounds

of all individuals scheduled to be directly involved in the supervision of laboratory/fieldwork and report preparation will also be submitted with the request for quotation. One completed copy of the Contractor's proposal, including the method of operation form and price is to be postmarked for return to the Contracting Officer for review within 20 calendar days of receipt of the request for quotation.

3.3 Definitions

3.3.1 Cultural Resource Survey. A cultural resource survey is an intensive on-the-ground evaluation of an area sufficient to determine the number and extent of the resources present within that area. The cultural resource survey is to be conducted in selected areas within the areas marked on Map 1 (Encl 1). A random surface collection will be conducted on each site identified during this process.

3.3.2 Laboratory Analysis. Artifacts collected during survey activities will be washed and permanently labeled. These collections will be analyzed in an attempt to determine each site's temporal affiliation and horizontal surface distribution. All artifacts will be separated into various general categories and then subdivided into smaller functional and stylistic categories. These distributions shall be quantitatively assessed in a professional, concise manner.

3.3.3 Principal Investigator. The principal investigator is required to spend 10 percent of the total field time directly involved in the fieldwork. Adequate time will be devoted to the contract to accomplish the work in an expedient manner. He will be responsible for the validity of the material presented in the cultural resource report and will sign the final report. If authored by someone other than the principal investigator, he will prepare a forward in the final report. In the event of controversy or court challenge, the principal investigator will testify on behalf of the Government in support of the report findings. Persons in charge of an archaeological project or research investigation contract, in addition to meeting the appropriate standards for an archaeologist, should have recognized expertise in this field and must have a doctorate or an equivalent level of professional experience as evidence by a publication record that demonstrates experience in field project formulation, execution, and technical monograph reporting. Suitable professional references may also be made available to obtain estimates regarding adequacy of prior work. If prior projects were of a sort not ordinarily resulting in a publishable report, a narrative should be included detailing the proposed project to the director's previous experience, along with references suitable to obtain opinions regarding the adequacy of this earlier work.

3.3.4 Archaeologist. The minimum formal qualifications for individuals practicing archaeology as a profession are a B.A. or B.S. degree from an accredited college or university, followed by two years of graduate study with concentration in anthropology and specialization in archaeology during one of these programs, and at least two summer field schools or their equivalent, under the supervision of archaeologists of recognized competence. A Master's thesis or its equivalent in research and publication is highly recommended as is the Ph.D degree. Individuals lacking such formal qualifications may present evidence of a publication record and references from archaeologists who do meet these qualifications.

3.3.5 Consultants. Personnel hired or subcontracted for this special knowledge and expertise must carry academic and experiential qualifications in

their own field of competence. Such qualifications are to be documented by means of vitae attachments to the proposal or at a later time if the consultant has not been retained at the time of the proposal.

3.3.6 Institution or Contract Firm. Any institution, organization, etc., obtaining this contract and sponsoring the principal investigator or project director meeting the previously given requirements must also provide or demonstrate access to the following capabilities:

(1) Adequate field and laboratory equipment necessary to conduct whatever operations are defined in the scope of work.

(2) The institution will provide for storage and retrieval facilities for perpetual curation for all artifacts, specimens, records, and other documents of the cultural resource survey performed under this contract. The location of these materials will be stated in the report of this work, and the Contractor will indicate how such materials and records can be made available to other professionals who may have a need for data derived from the work conducted under this contract. All boxes containing artifacts collected during these activities will be marked: PROPERTY OF U.S. GOVERNMENT, ST. LOUIS DISTRICT, CORPS OF ENGINEERS. The Contractor agrees to furnish to the Contracting Officer, if requested, artifacts and notes recovered from this work. Artifacts or specimens which might lose scientific integrity by being so furnished will not be provided. Artifacts or specimens furnished to the Contracting Officer shall be available for archaeological use if such a need is indicated by the curator of the materials. The Contractor will not be responsible for costs associated with transportation of artifacts to the Government offices.

3.4 Final Report. The Contractor will prepare a written report which describes in detail data collection techniques used, as well an an explanation of the rationale for their use. The final report will consist of a summary of the results of the previously completed background and literature search, as well as the detailed findings of the survey. It will include a photographic log of each phase of work as outlined in this Appendix 1. Thirty-five millimeter slides are required for this documentation. U.T.M. coordinates of each site identified will be presented as part of the overall site description. The report will contain an abstract not to exceed one typewritten page. Completed state site forms will be submitted for each site identified during these investigations. A random surface collection will be conducted on each site identified during the pedestrian survey. These collections should attempt to determine each site's temporal affiliation and horizontal surface distribution. The report will include maps which accurately define site locations, site numbers, areas surveyed, and groundcover conditions, as well as any other relevant data pertaining to this resource. Plates/drawings of diagnostic artifacts will be incorporated into the body of the final report or attached as an appendix. A full set of reproducible copies of all maps, plates, and drawings will be included in Appendix 1 in the final report. Survey information such as groundcover, areas surveyed, and surface distributions should be clearly illustrated on appropriate USGS quadrangle maps, scale 1:24000. Hand lettering will not be accepted within the body of this report other than that necessary to record data on base maps. Oversize maps will be folded and included in a pocket in the back of the appropriate section of the report or Appendix 1 thereof. Specific locations of sites found or otherwise identified as a result of investigations under this contract that might be subject to vandalism are to be submitted by the Contractor as a separate document, enclosed in a manila envelope attached to the rear cover of the final report and marked "Not for Submission to NTIS."

4. Protection of Natural and Historic Features. The Contractor will be responsible for all damages to persons and property which occur in connection with the work and services under this contract without recourse against the Government. The Contractor will provide the maximum protection, take every reasonable means, and exercise care to prevent damage to existing historic structures, roads, utilities, and other public or private facilities.
5. Property Damage. The Contractor will restore to the satisfaction of the Government's representative, at no additional cost to the Government, any damage to any Government or private property.
6. Publicity. The Contractor will not release any materials for publicity without the prior written approval of the Government representative. This provision will not be construed so as to restrict in any way the Contractor's right to publish in scholarly or academic journals. Students and other archaeologists are likewise free to use information developed under this contract in theses and dissertations or in publications in scholarly or academic journals.
7. Permits and Right of Entry. The Contractor is required to secure the right of entry upon the worksite for performance of work under this contract. The Contractor will obtain the necessary approval to enter on any private property and to permanently remove any artifacts recovered during subsequent survey activities. Should access to certain portions of the project area referenced in paragraph 2 above be denied, the actual amount of the purchase order as indicated in Block 25, Form DD 1155, will be decreased in an amount equal to the percentage of difference between the original required acreage and that acreage actually surveyed.
8. Field Conditions. The majority of acreage within the project areas is presently cropped in immature beans, corn, or wheat. Ground visibility should be good in the corn and beans but poor in the wheat.
9. Investigation of Field Conditions. Representatives of the Contractor are urged to visit the areas where work is being performed and by their own investigation satisfy themselves as to the existing conditions affecting the work to be done. Any prospective contractors (including subcontractors) who choose not to visit the area will nevertheless be charged with knowledge of conditions which a reasonable inspection would have disclosed. The Contractor will assume all responsibility for deductions and conclusions as to the difficulties in performing the work under this contract.
10. Inspection and Coordination. Government representatives may at any reasonable time inspect and evaluate the work being performed hereunder and the property on which it is being performed. If any inspection or evaluation is made by the Government on the property of the Contractor or any subcontractor, the Contractor will provide and will require his subcontractor to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives. All inspections and evaluations will be performed in such a manner as will not unduly delay the work. Close coordination will be maintained between the Contractor's principal investigator and the Government representative to ensure that the Government's best interest is served.
11. Responsibility for Materials and Related Data. Except as otherwise provided in this contract, the Contractor will be responsible for all written materials and related data generated by this contract until they are delivered to the Government at the designated delivery point and prior to acceptance by the Government. The designated delivery point is 210 Tucker Boulevard North, Room 1138, St. Louis, Missouri 63101, ATTN: Mr. Terry Norris (ED-BA).

12. Schedule of Work

12.1 Fieldwork. All fieldwork related to this work item will be completed on or before 15 June 1982.

12.2 Draft Report. Five copies of the draft report will be submitted by the Contractor to the Government representative within 120 calendar days after the notice to proceed on or about 15 July 1982. The Government representative will review the report for compliance with the requirements of the contract and will return the preliminary report, together with any written comments he may have thereon which may require changes in the report, to the Contractor within 35 calendar days after its receipt. The report will be organized in a manner consistent with the St. Louis District report format guidelines (Encl 2).

12.3 Final Report. The Contractor will submit 30 copies of the final report, including the original copy signed by the principal investigator, to the Government within 185 calendar days after receipt of the written notice to proceed on or about 15 November 1982. A set of reproducibles of all drawings, plates, and other graphics, including site forms, will be furnished at the time of submission of the final report.

12.4 Provisions for Payment. Assuming that all requirements of the Scope have been fulfilled, two equal payments will be made on this order. The first payment will be made upon receipt of the draft report and the last payment upon acceptance of the final report.

13. Delays. In the event these schedules are exceeded due to causes beyond the control and without the fault or negligence of the Contractor, this work order will be modified in writing, and the contract completion date will be extended one calendar day for each calendar day of delay.

Encl
1. Project Map
2. Method of Operation Form
3. Exhibit - SLD Report Format Guidelines

GUIDELINES FOR CULTURAL RESOURCE SURVEY REPORTS

The following report format is intended to serve as a guide, outlining the type of information which should be included in a cultural resource assessment report. Every contract cultural resources report must contain as a minimum the following section or component:

Title Page
Abstract
Introduction
Scope of Work (if applicable)
Environmental Setting
Survey Methodology
Survey Results
Statement of Significance
Statement of Impact
Recommendations
References
*Appropriate Appendices and Maps
(U.S.G.S. 7 1/2 or 15 Min. and Project Map)

*At a minimum the following detailed information must be included in this section: U.S.G.S. 7 1/2 or 15 min. maps (if available) and project maps indicating all areas in which actual on-the-ground inspections were conducted and the exact location of site(s) in relation to the project. Vegetational cover and other relative information can also be included on these maps. For archeological sites, copies of any available site records which were filed for the site.

Detailed locational information can be included as an appendix in the report. This data should be deleted from any report subject to public dissemination but must be provided in the copy which the St. Louis District reviews. Appropriate arrangements should be made with the contractor to assure protection of this information but allow its use as a planning tool.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

The above numbered Order (DAWC43-82-M-2045) is hereby modified to reflect the following change:

Completion date (Block 10) shall read 1 May 1983.

APPENDIX 2

PROJECT FORMS

CAHOKIA CANAL AND HARDING DITCH SURVEYS
LAND CLEARANCE FORM

Parcel Number _____ Date _____

Parcel Designation _____ Recorder _____

Owner _____

Tenant _____

Permission: _____ Granted ____ Denied

Restrictions (if any) _____

_____

_____

Remarks _____

_____

_____

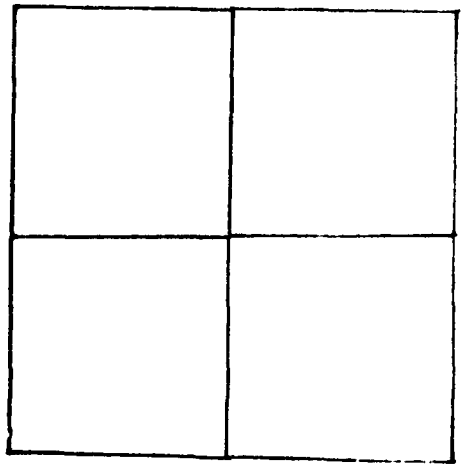
_____

_____

_____

Indicate lands for which access was granted or denied and ground cover conditions on the 640 acre sketch map provided below.

_____ acres in the _____¼ _____¼ Sec. _____



CAHOKIA CANAL AND HARDING DITCH SURVEYS
FIELD WALKOVER REPORT

Parcel Number _____ Date of Walkover _____

Parcel Designation _____ Participants _____

Owner(s) _____ _____

_____ Recorder _____

Tenant(s) _____ Initial Coverage Interval _____ meters

_____

Ground Cover, Surface Preparation, Surface Wash, and Visibility Range (%) _____

_____

_____

Field Numbers of Sites Located _____

_____

Remarks _____

_____

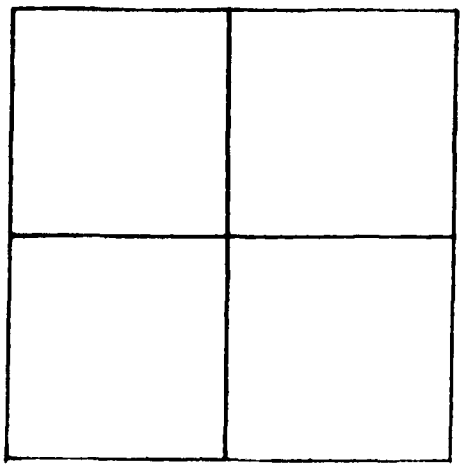
_____

_____

_____

Indicate field area covered on the 640acre sketch map provided below and on aerial photo.

_____ acres in the _____ ¼ _____ ¼ Sec. _____



CAHOKIA CANAL AND HARDING DITCH SURVEYS
SITE SURVEY FORM

Parcel Number _____ Date of Survey _____

Parcel Designation _____ Participants _____

Site Field Number _____ _____

IAS Number 11-MS-_____ Recorder _____

Revisit: ____ Yes ____ No Estimated Area of Scatter ___x_____ meters

Initial Coverage Interval _____ meters Collection Interval ___ meters

Visibility Range (%) _____ Density Range Estimate (x/m^2) _____

Number of Bags Collected _____ _____

Materials Observed _____

_____

_____

_____

_____

Which Materials, If Any, Were Not Collected? _____

_____

_____

_____

_____

Describe Any Features Observed _____

_____

_____

_____

_____

_____

(over)

Ground Cover, Surface Preparation, and Surface Wash _____

_____

_____

_____

_____

Site Topographic Position _____

_____

_____

_____

Modern Disturbance to Site Area _____

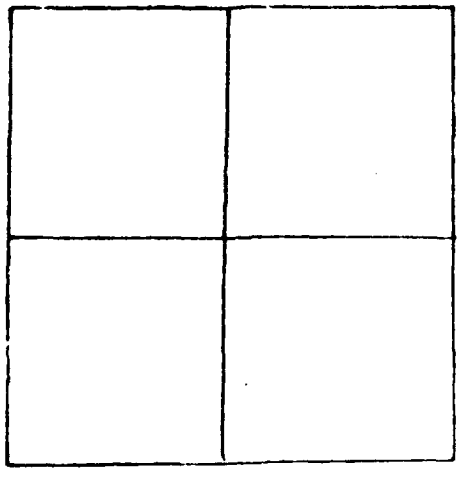
_____

_____

Photographs (Include Roll and Frame #s) _____

Indicate site area on the 640 acre sketch map provided below and on aerial photo.

____ ¼ ____ ¼ Sec. ____



NOTE: Use a Continuation Sheet for any additional remarks. Also, be certain to record the site area on the appropriate USGS Quadrangle sheet.

NOT FOR SUBMISSION TO NTIS

APPENDIX 3

SITE DESCRIPTIONS

Ms-46 McDonough Lake Site UTM: [redacted]

This site was first reported by Bluhm in 1957 as a Late Cahokia village, based on information provided by Griffin. Archaic, Middle Woodland, Early Bluff, and Mississippian components were reported by Munson after a 1963 revisit (Munson 1971: 7,9,11,14-16). Brandt revisited the site in 1977, reported observing some material, and recommended a systematic survey of the site (Figure 8). The SIUE crew were unable to resurvey the site during the present project because most of the area had a cover of tall wheat and the remainder had received no splash erosion.

Ms-128 Nochta Site UTM: [redacted]

Ms-128 was originally reported by Munson in 1963. After revisiting the site, FAP-413 personnel recommended combining this site and Ms-129 as newly defined Ms-128 (Linder et al. 1978, A11-13). The site is described as being located on an island of high ground in the Edelhardt and McDonough Lake Meander Scars. Only the southernmost three hectares of the 37.5 hectare site extend into the northern portion of the McDonough Lake Parcel (Figure 8). Materials collected during the FAP-413 survey indicated Early Archaic, Late Archaic, Middle Woodland, Early Bluff, Late Woodland/Mississippian, and historical components. These materials included hoe flakes, projectile points, drill fragments, one ground stone, and Hopewell, Havana, grog tempered, limestone tempered, and Madison County shale tempered ceramics, including several rims. Under conditions of 100% visibility but very poor splash erosion, the SIUE crew could find no evidence of the site during pedestrian survey.

Ms-345 Eckmann Island Site UTM [redacted]

This site was first reported by Victor Eckmann to Brandt in 1971. Brandt conducted a surface collection and mapped the site. Materials collected included lithics and three undescribed body sherds. Brandt identified Archaic, Late Woodland, and Mississippian components on the site.

The site is located on a steep, sandy penninsula across Fairmount Avenue from the Eckmann home, on the eastern edge of the Brushy Lake Parcel. The distribution of the light scatter of lithic materials observed during the SIUE survey indicates that Ms-345 extends further along the penninsula to both the north and south than previously reported (Figure 9). Nondiagnostic flakes and block shatter were collected from the outer edges of the four hectare site. The central portion of the site remained uncollected because freshly plowed ground inhibited survey. Elevations within the site range from 410 to 415 feet MSL. The Dupo and Raddle soil series suggest a forest setting as the former habitat (U.S.D.A. 1978 :22).

NOT FOR SUBMISSION TO NTIS

APPENDIX 4

STATE OF ILLINOIS SURVEY FORMS